RAZUVAYEV, G.A.; LATYAYEVA, V.N.; VYSHINSKAYA, L.I.

Some reactions of biscyclopentadienyldiphenyltitanium. Dokl. AN SSSR 134 no.3:612-614 S '60. (MIRA 13:9)

1. Nauchno-issledovatel'skiy institut khimii Gor'kovskogo gosudarstvennogo universiteta im. N.I. Lobachevskogo. 2. Chlen-korrespondent AN SSSR (for Razuvayev).
(Titanium compounds)

5.3700 25319 S/020/61/138/005/019/025
B103/B222

AUTHORS: Razuvayev, G. A., Corresponding Member AS USSR, Latyaeva, V.N., and Vyshinskaya, L. I.

TITLE: Reaction of benzoyl peroxide with titanocene derivatives

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 138, no. 5, 1961, 1126-1129

TEXT: The authors studied the interaction of biscyclopentadienyl titanium $(C_2H_5)_2Ti$ with benzoyl peroxide, since the acyl peroxides are donors of acyloxy radicals and easily break the O—O bond. According to a previous paper by the authors (Ref. 1: DAN, 134, 612 (1960)), $(C_2H_5)_2Ti$ forms on thermal decomposition of biscyclopentadienyl-phenyl titanium in alcohol or benzene solution, is very reactive and sensitive to atmospheric oxygen. Benzoyl peroxide is known to destroy sandwich compounds completely (Posakker, Ref. 2: RZhKhim, 1959, No. 22, 78502). In the present case, the titanocene group was not decomposed in benzene or isopropyl alcohol in the cold by the action of benzoyl peroxide. The color of the solution changed instantaneously from dark green to dazzling yellow. CO_2 was not

Card 1/4

liberated in the reaction. The yellow crystalline product obtained in a dry nitrogen atmosphere was the expected biscyclopentadienyl titanium dibenzoate: $(C_5H_5)_2Ti(OCOC_6H_5)_2$. Since it had not yet been described, the authors also synthesized it from titanocene dichloride and silver benzoate. They checked its identity by ultimate analysis (for which T. V. Guseva is thanked), by determination of the molecular weight, the melting point, and the content of benzoate groups. $(C_5H_5)_2Ti(OCOC_6H_5)_2$ can be hydrolyzed very easily, whereby the molecule of the titanocene salt decomposes and cyclopentadiene, the salt of benzoic acid, and titanic acid are formed. On alcoholysis in absolute isopropyl alcohol, cyclopentadiene, acetone, and benzoic acid were found among the reaction products. By the action of moist air, the titanocene dibenzoate molecule loses two moles of cyclopentadiene and can be converted to dibenzoxy titanium oxide $O{=}Ti(OCOC_6H_5)_2$. This product is infusible. An analogous representative of compounds of the type $(C_5H_5)_2Ti(OCOR)_2$ was obtained by the reaction of titanocene dichloride with silver acetate: $(C_5H_5)_2Ti(OCOCH_3)_2$. It is yellow, melts at 127-130°C, and corresponds to biscyclopentadienyl

titanium diacetate. On alcoholysis of the latter in absolute isopropyl alcohol, acetate groups were split off and cyclopentadiene was formed to some extent. A yellow substance was precipitated, which is insoluble in organic solvents and has a structure unknown so far. Dissolved acetone was found in the isopropyl alcohol. The yellow substance mentioned was hydrolyzed completely in dilute alkali, whereby cyclopentadiene as well as acetic and titanic acids were formed. The formation of dibenzoate indicates that, unlike ferrocene, the structure of titanocene remains unchanged in this case. The authors studied the action of benzoyl peroxide on the cyclopentadienyl compounds of tetravalent titanium, i.e., on diphenyl biscyclopentadienyl titanium. Even at room temperature, the phenyl radicals in isopropyl alcohol are replaced by the acyloxy groups of the peroxide: $(C_5H_5)_2Ti(C_6H_5)_2 + (C_6H_5COO)_2 + CH_3CH(OH)CH_3 \rightarrow (C_5H_5)Ti(OCOC_6H_5)_2 + 2C_6H_6 + CH_3COCH_3$. Thereby, biscyclopentadienyl titanium dibenzoate is formed. The phenyl radicals are converted into benzene by dehydration of the alcohol to acetone. The following absorption bands (in cm^{-1}) were found by comparing the infrared spectra of the final and the initial compounds: $(C_5H_5)_2Ti(C_6H_5)_2$ 448, 459, 606, 690, 720, 770, 822, 886, 930,

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Reaction of benzoyl peroxide with... 25319 S/020/61/138/005/019/025
B103/B220

1024, 1076, 1286; $(C_5H_5)_2TiCl_2$: 769, 814, 828, 872, 885, 930, 1018: $(C_5H_5)_2Ti(OCOCH_3)_2$ 404, 520, 600, 624, 822, 865, 1024; $(C_5H_5)_2Ti(OCOC_6H_5)_2$ 720, 830, 865, 1024, 1068, 1132. The bands 822-830 and 1018-1024 cm^{-1} are to be found in all spectra. They are interpreted by the authors as vibrations of the cyclopentadienyl ring. The band 865 cm^{-1} is absent in the spectra of the initial compounds, and is interpreted as belonging to the vibrations of the Ti—O bond. There are 1 table and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: J. D. Varma, R. C. Mehrotra (Ref. 3: J. Pract. Chem. 8, 64 (1959)).

ASSOCIATION: Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete im. N. I. Lobachevskogo (Scientific Research Institute of Chemistry at Gor'kiy State University imeni N. I. Lobachevskiy)

SUBMITTED: February 20, 1961

Card 4/4

ACC NR: AP7006667 SOURCE CODE: UR/0079/66/036/008/1491/1498

AUTHOR: Razuvayev, G. A.; Latyayeva, V. N.; Vyshinskaya, L. I.; Kilyakova, G. A. 34

ORG: Scientific Research Institute, Gor'kiy State University im. N. I. Lobachevskiy (Nauchno-issledovatel'skiy institut pri gor'kovskom gosudarstvennom universitete)

TITLE: Some reactions of Bis-cyclopentadienyltitanium and monocyclopentadienyl-phenyltitanium

SOURCE: Zhurnal obshchey khimii v. 36, no. 8, 1966, 1491-1498

TOPIC TAGS: organotitanium compound, thermal decomposition, chemical bonding

ABSTRACT: In a study of whether thermal reactions of decomposition of pi-cyclopentadienyl compounds of tetravalent titanium are common for different R, and a comparison of the reactions of newly obtained cyclopentadienyl derivatives with the known reactions of tetraphenyl- and diphenyltitanium, the thermal decomposition of $(C_5H_5)_2TiR_2$ was studied, where R = CH_3, C_6H_5, and $C_5H_5Ti(C_6H_5)_3$. Their reactions with halo-derivatives and oxidation were also studied, and the data obtained were compared with analogous data for tetraphenyltitanium. The new cyclopentadienyl compounds with tetravalent titanium $(C_5H_5)_2TiR_2$, when heated, exhibited a cleavage of the Ti-R bond, forming titanium compounds of lower valence, analogously to tetraphenyltitanium, which breaks down into diphenyltitanium and diphenyl. The pi-C_5H_5-Ti bond was unaffected. The stability of the compounds to thermal decomposition increased in the series: $(C_6H_5)_4Ti < (C_5H_5)Ti(C_6H_5)_3 < (C_5H_5)_2Ti(C_6H_5)_2$. $C_5H_5Ti(C_6H_5)_3$ was synthesized

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ACC NR: AP7003667

for the first time, and possessed one pi-bond C_5H_5-Ti and three sigma-bonds C_6H_5-Ti. The products of thermal decomposition: $(C_6H_5)_2Ti$, $C_5H_5TiC_6H_5$, and $(C_5H_5)_2Ti$ were more stable to the action of high temperatures, but were extremely readily oxidized. The reactions of $(C_6H_5)_2Ti$, $C_6H_5TiC_5H_5$, and $(C_5H_5)_2Ti$ with halo-derivatives included cleavage of the pheryltitanium bonds and their replacement by chlorine-titanium bonds. In the reaction of these compounds with chloroform, carbon tetrachloride, mercuric chloride, and hydrogen chloride, the C_5H_5Ti and $(C_5H_5)_2Ti$ groups were unaffected. The titanium-containing final products were $TiCl_4$, $C_5H_5TiCl_3$, and $(C_5H_5)_2TiCl_2$, respectively. The reactions of organotitanium compounds considered illustrate the relative stability of the pi-bond C_5H_5Ti to the action of temperatures, halo-derivatives and other reagents in comparison with the sigma-bond Ti-R. [GPRS: 38,970]

SUB CODE: 07 / SUBM DATE: 06Jul65 / ORIG REF: 007 / OTH REF: 003

Card 2/2 jb

VYSHINSKAYA, T. Ye.

Treatment of hypertension with dicoline and dimecoline. Sov. med. 27 no.11:46-51 N '63 (MIRA 18:1)

1. Iz gospital'noy terapevticheskoy kliniki (direktor - deystvitel'nyy chlen AMN SSSR prof. A.A. Bagdasarov [deceased]) II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova.

RADIN, Vladimir Isaakovich, kand. tekhn. nauk; CHERCHEPOV, Vyacheslav Vyacheslavovich, starshiy prepodavatel'; VYSHINSKAYA, Valentina Pavlovna, inzh.

Thermal design of enclosed short-circuited asynchronous motors using digital computers. Izv. vys. ucheb. zav.; elektromekh. 8 no.5:595-598 '65. (MIRA 18:7)

1. Glavnyy konstruktor elektromekhanicheskogo zavoda imeni Vladimira Il'icha (for Radin). 2. Kafedra elektricheskikh mashin, apparatov, matematicheskikh i schetnoreshayushchikh priborov i ustroystv Novocherkasskogo politekhnicheskogo instituta (for Cherchepov). 3. Vychislitel'nyy tsentr Novocherkasskogo politekhnicheskogo instituta (for Vyshinskaya).

VYSHINSKIY, A. M.

USSR/Soil Cultivation. Organic Fertilizers. J-4

Abs Jour: Ref Zhur-Biologiya, No 1, 1958, 1272.

Author : Vyshinskiy, A.M.
Inst : Academy of Science UkSSR
Title : The Effectiveness of Peat-Manure Composts In Various Methods of Preparation.

Orig Pub: Sb.; Vopr. Razvitiya s. kh. Poles'ya, Kiev, Akad Nauk UkSSR, 1956 (1957), 81-90.

Abstract: In 1937 the Ukrainian Scientific-Research-Institute of Agriculture (UNIIZ and its testing system), in a series of long-term and short-term experiments, made a study of methods of preparing peat-manure composts and their effectiveness in regions of Poles'y UkSSR. The peat-manure composts, in a ratio of 2:1 or even 4:1 when prepared for summer-autumn composting and 1:1 when composted in the winter, must be considered as the more promising. Four months of composting (somewhat longer in winter and shorter in

Card : 1/3

-9-

USSR/Soil Cultivation. Organic Fertilizers. J-4

Abs Jour: Ref Zhur-Biologiya, No 1, 1958, 1272.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R001961410015-3"

summer) was sufficient under Poles'ye conditions. Peat-manure composts prepared from fresh manure were far superior to those prepared from the same quantity of dried and scattered manure. Over seven or eight months of storage the loss in nitrogen varied usually between 1% and 3%. In its effect on potato yield the peat-manure mixture differed little from the same quantity of pure manure, and the effects continued to be felt throughout the rotation; on the sixth crop -- winter wheat -- an increase in grain yield of 1.2 centners/hectare was achieved. Use of peat-manure compost in potato sowings was favorably reflected in the yield and quality of the cover crop -- flax-fibre "Iendolgunets". The flax fiber and seed yield increased, as did the quality of both. Under the combined influence of the peat-manure composts and the grasses the quantity of humus in the

Card : 2/3

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VYSHINSKIY, Aleksandr Mikhaylovich [Vyshyns'kyi, O.M.], kand.sel'skokhoz. nauk; MINKEVICH, S.M., kand.sel'skokhoz.nauk, otv.red.; GURENKO, V.A. [Hurenko, V.A.], red.

[Organic fertilizers, their accumulation and effective utilization] Organichni dobryva, ikh nahromadzhennia ta efektyvne zastosuvannia. Kyiv, 1960. 39 p. (Tovarystvo dlia poshyrennia polutychnykh i naukovykh znan' Ukrains'koi RSR. Ser. [6 or 7], no.5. (MIRA 13:6)

(Organiculture)

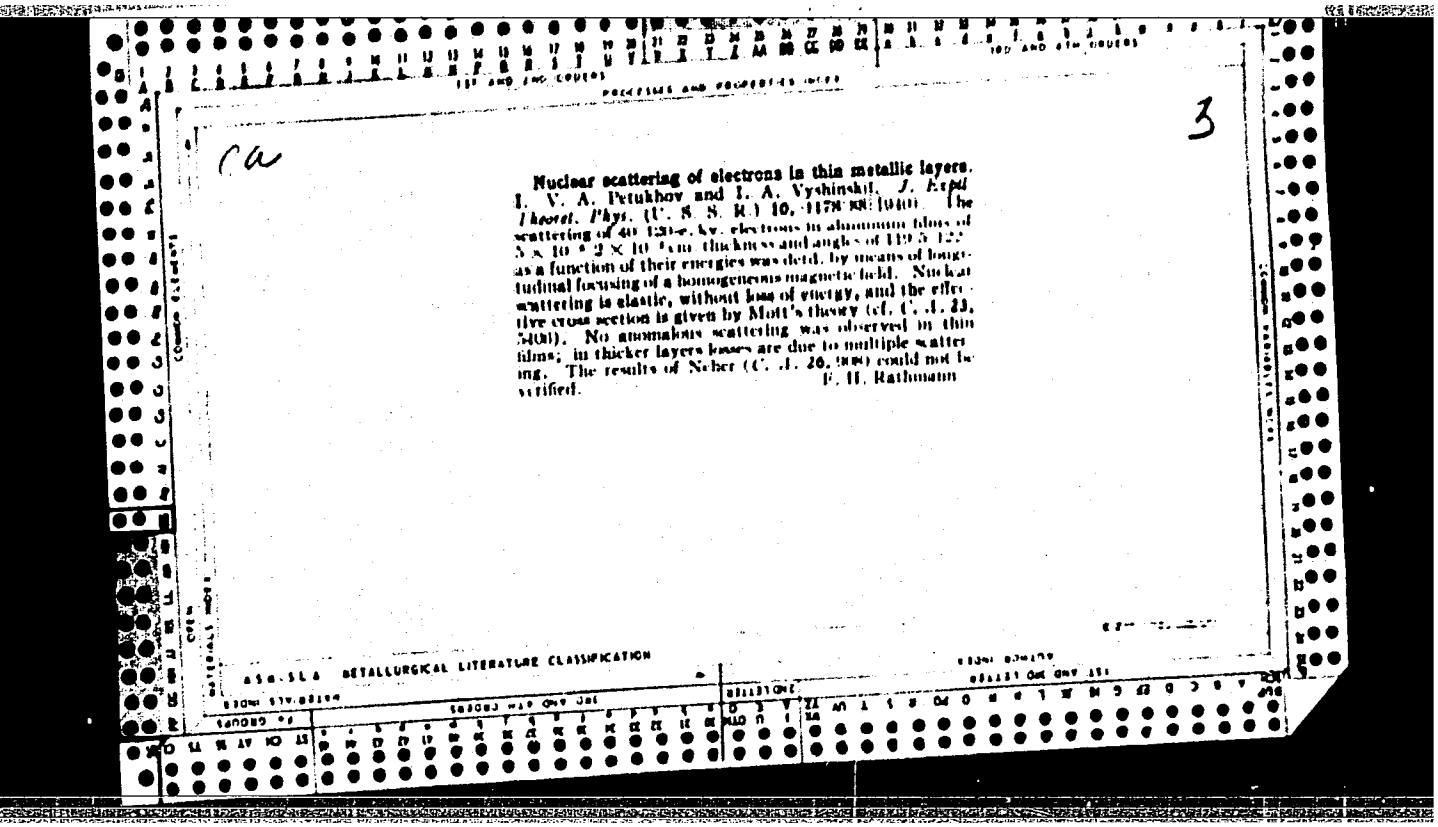
1. VYSHINSKII, A. M.

2. USSR (600)

4. Potassium Salts

7. Stebniki and Kalush potassium salts as fertilizers for crops in the Poles'ye and forest steppe of the Ukrainian S.S.R., Trudy UNDISOV, 6, 1951.

9. Monthly List of Russian Accessions, Library of Congress, May 1953, Unclassified.



3

ca

Nuclear scattering of electrons in thin metallic layers. I. V. A. Petukhov and I. A. Vyshinskiĭ. *J. Exptl Theoret. Phys.* (U. S. S. R.) 10, 1178-88 (1940). The scattering of 40-130-kv. electrons in aluminum films of 5×10^{-5} to 2×10^{-4} cm. thickness and angles of 119.5-122° as a function of their energies was detd. by means of longitudinal focusing of a homogeneous magnetic field. Nuclear scattering is elastic, without loss of energy, and the effective cross section is given by Mott's theory (cf. C. A. 23, 5401). No anomalous scattering was observed in thin films; in thicker layers losses are due to multiple scattering. The results of Neher (C. A. 26, 1000) could not be verified. F. H. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

VYSHINSKIY, A.M.

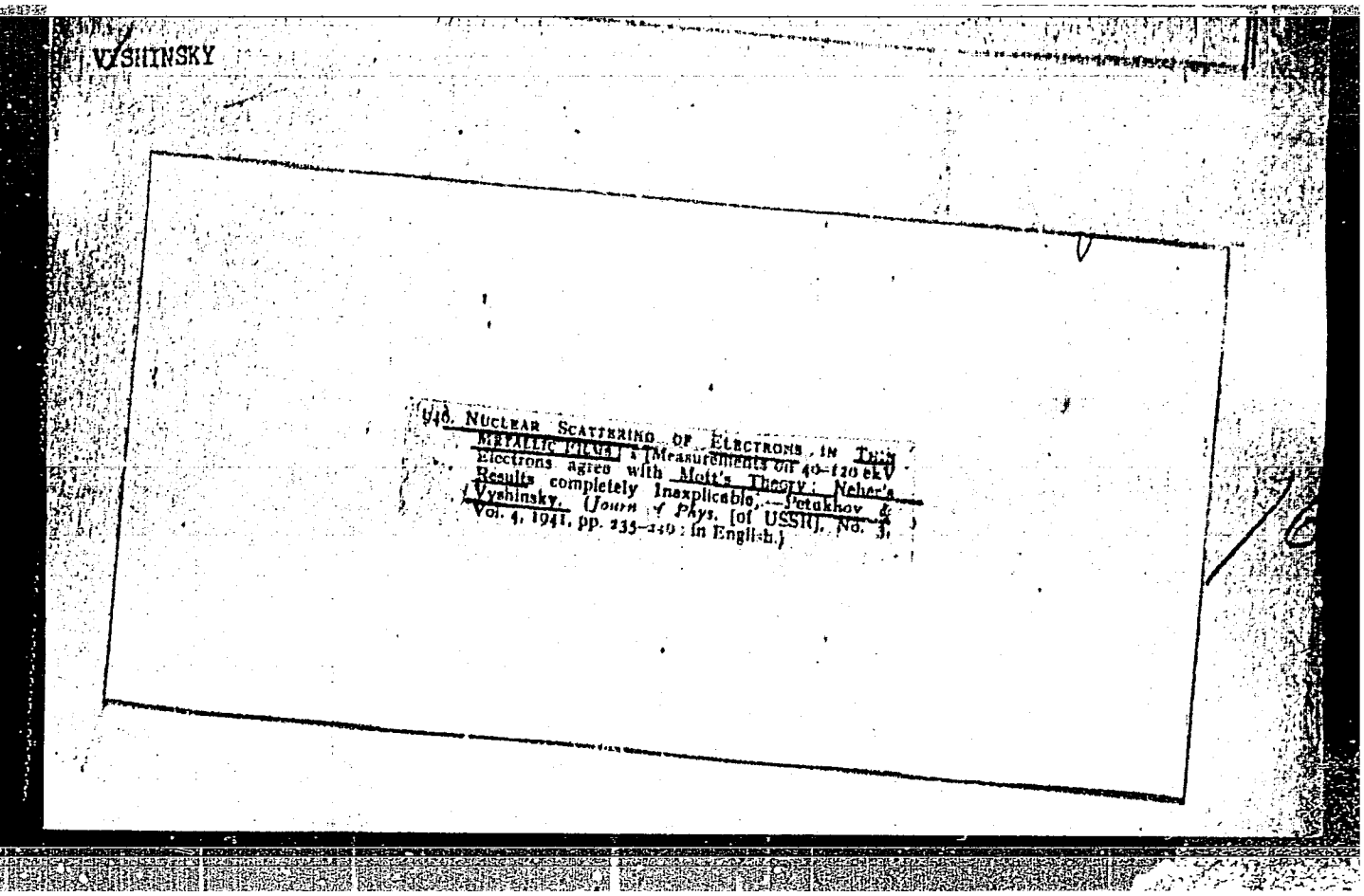
System of fertilizer application in crop rotations of the Ukrainian Polesye. Zemledelie 7 no.9:47-56 S '59. (MIRA 12:11)

1. Ukrainskiy nauchno-issledovatel'skiy institut zemledeliya.
(Polesye--Fertilizers and manures)

VYSHINSKIY, A.M.

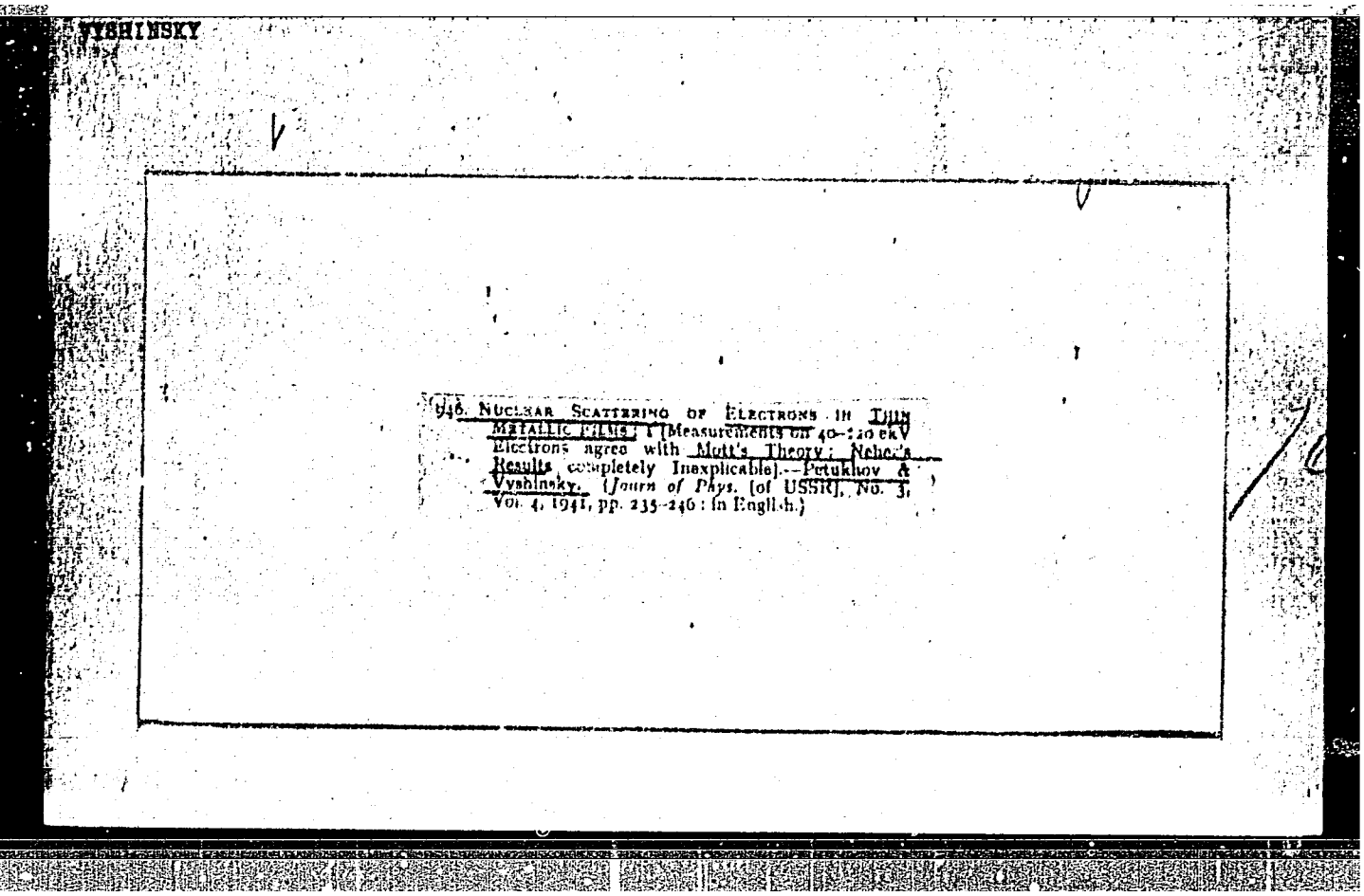
Local organic fertilizers in Polesye and the forest-steppe of the Ukrainian S.S.R. Zemledelie 7 no.1:40-45 Ja '59.
(MIRA 12:1)

1. Ukrainskiy nauchno-issledovatel'skiy institut zemledeliya.
(Polesye--Fertilizers and manures)
(Ukraine--Fertilizers and manures)



VYSHINSKY

916. NUCLEAR SCATTERING OF ELECTRONS IN THIN METALLIC FILMS. [Measurements on 40–120 ekV Electrons agree with Mott's Theory; Neher's Results completely Inexplicable.—Petukhov & Vyshinsky. (Journ. of Phys. [of USSR], No. 3, Vol. 4, 1941, pp. 235–240: in English.)



VYSHINSKY

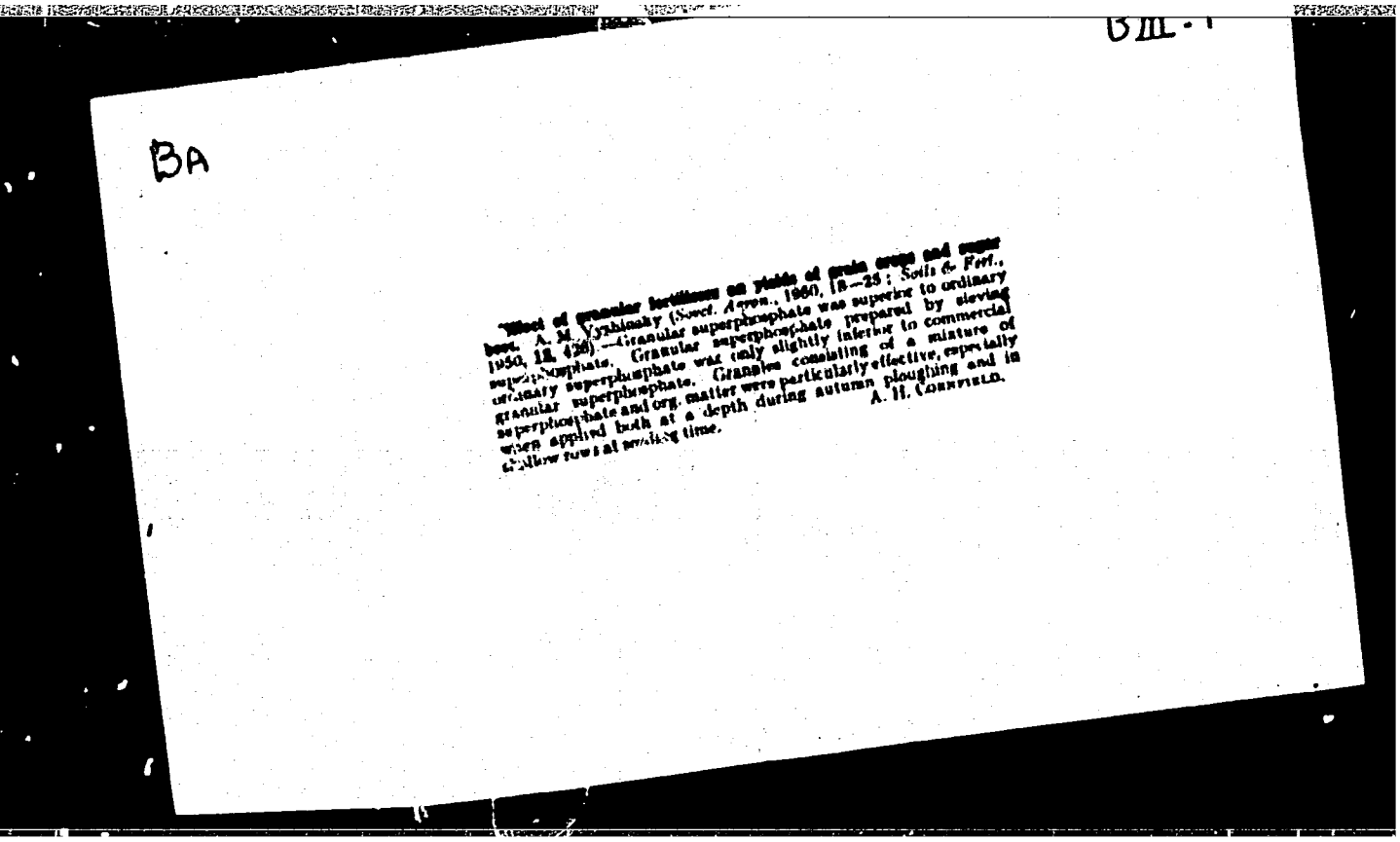
946. NUCLEAR SCATTERING OF ELECTRONS IN THIN METALLIC FILMS. I. [Measurements on 40–120 ekV Electrons agree with Mott's Theory; Nehc's Results completely Inexplicable].—Petukhov & Vyshinsky. (*Journ of Phys.* (of USSR), No. 3, Vol. 4, 1941, pp. 235–246: in English.)

VYSHINSKY, A. M.

Effect of granular fertilizers on yields of grain crops and sugar beet. A. M. Vyshinsky (*Sovet. Agron.*, 1950, 13—25; *Soils & Fert.*, 1950, 13, 426).—Granular superphosphate was superior to ordinary superphosphate. Granular superphosphate prepared by sieving ordinary superphosphate was only slightly inferior to commercial granular superphosphate. Granules consisting of a mixture of superphosphate and org. matter were particularly effective, especially when applied both at a depth during autumn ploughing and in shallow rows at seeding time. A. H. CORNFIELD.

VYSHINSKY, A. N.

Effect of granular fertilizers on yields of grain crops and sugar beet. A. N. Vyshinsky (Sovet. Agron., 1950, 13—25; Soils & Fert., 1950, 13, 428).—Granular superphosphate was superior to ordinary superphosphate. Granular superphosphate prepared by sieving ordinary superphosphate was only slightly inferior to commercial granular superphosphate. Granules consisting of a mixture of superphosphate and org. matter were particularly effective, especially when applied both at a depth during autumn ploughing and in shallow rows at seeding time. A. H. CORNFIELD.



BA

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Effect of granular fertilizers on yields of grain crops and sugar beet. A. M. Vyshinsky (Sovet. Agron., 1960, 18—25 ; Soils & Fert., 1960, 23, 426).—Granular superphosphate was superior to ordinary superphosphate. Granular superphosphate prepared by sieving granular superphosphate was only slightly inferior to commercial superphosphate and org. matter were particularly effective, especially when applied both at a depth during autumn ploughing and shallow rows at sowing time.

A. H. Corriveau.

VYSHINSKIY, A.V.

Kinematic calculation of the driving gear for the working part of a boring machine. Trudy TSNIIPodzemshakhstroia no.2:56-60 '63. (MIRA 17:5)

VYSHINSKIY, A.V., inzh.

Determining tension in cables for the suspension of mine scaffolds. Shakht. stroi. 8 no.2:10-12 F '64.
(MIRA 17:3)

1. TSentral'nyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut podzemnogo i shakhtnogo stroitel'stva.

VYSHINSKIY, A.V., inzh.

Design of wedge-shaped rope fasteners. Shakht. stroi. 6 no.5:9-12 My '62. (MIRA 15:7)

1. TSentral'nyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut podzemnogo shakhtnogo stroitel'stva.
(Wire rope)

VYSHINSKIY, Andrey Yanurevich.
Lenin and Stalin, the great organizers of the Soviet state. Moscow, Foreign Languages Pub. House, 1949.
71 p.
Bibliographical footnotes.
So: N/5
101.1
.V91
1949

VYSHINSKIY, ANDREY YANUARYEVICH

Izbiratel'nvy zakon SSSR (Flectoral law in the USSR) v voprosakh i otevetakh Moskva Gosyurizdat, 1954. 39 p.

N/5
107.1
.V9

VYSHINSKY, I. A.

SA

145 537.533.74

Nuclear scattering of electrons in thin metallic films. I. PETUKHOV, V. A., AND VYSHINSKY, I. A. *J. Phys., U.S.S.R.*, 4, 3, *pp.* 235-246, 1941.—The scattering of electrons of 40-120 ekV energy in Al films $5 \cdot 10^{-6}$-$2 \cdot 10^{-5}$ cm. thick in an angle interval of 119·5° to 122° is investigated. A method of longitudinal focusing by a homogeneous magnetic field is employed, which permits the energy distribution of the scattered electrons to be obtained. It is shown that the nuclear scattering is elastic, i.e. without energy loss, and that the effective scattering cross-section is in accordance with Mott's theory.

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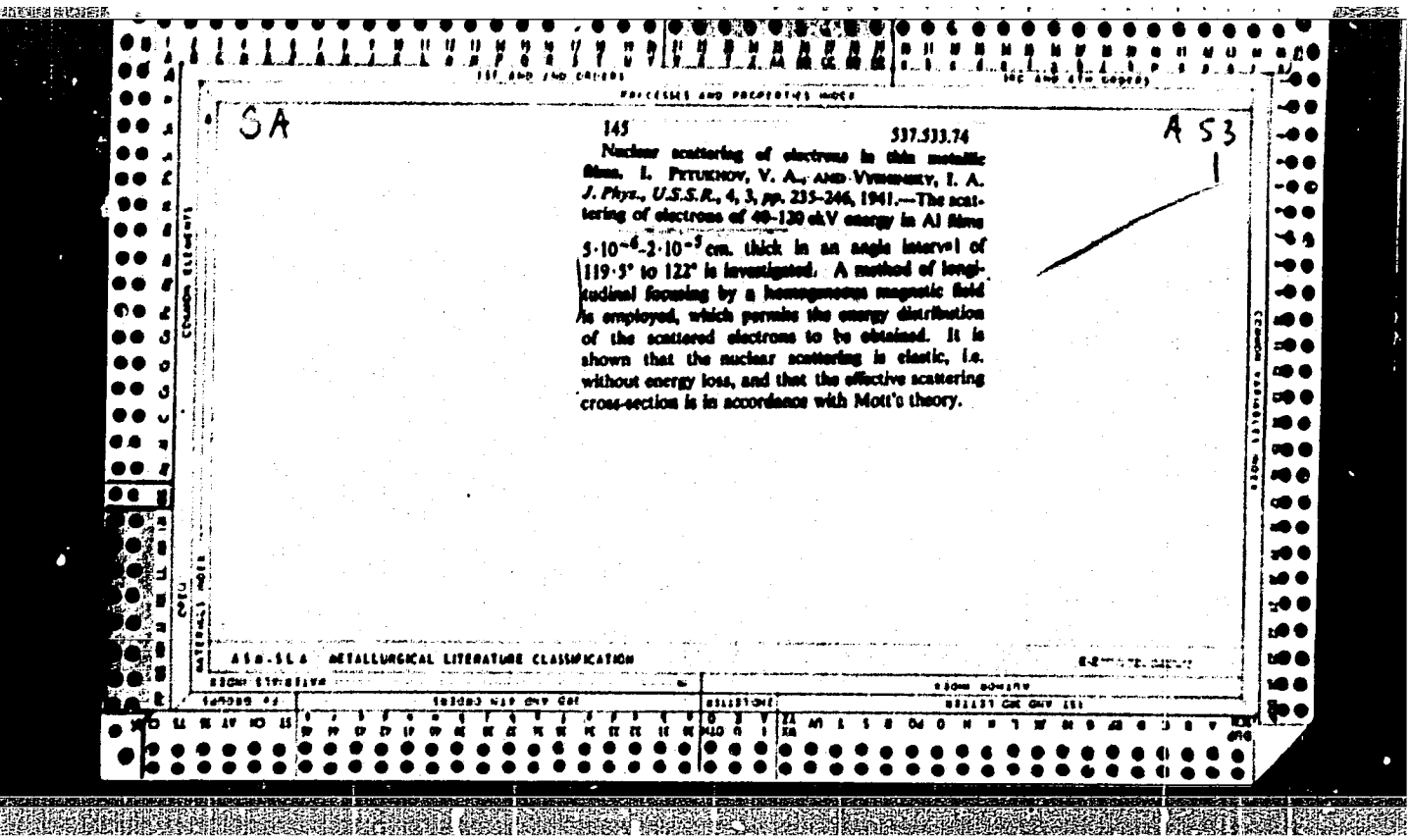

SA

145 537.533.74

Nuclear scattering of electrons in thin metallic films. I. PETUKHOV, V. A., AND VYSOKOSKY, I. A. *J. Phys., U.S.S.R.*, 4, 3, pp. 235–246, 1941.—The scattering of electrons of 40–120 eV energy in Al films $5 \cdot 10^{-6}$–$2 \cdot 10^{-5}$ cm. thick in an angle interval of 119·5° to 122° is investigated. A method of longitudinal focusing by a homogeneous magnetic field is employed, which permits the energy distribution of the scattered electrons to be obtained. It is shown that the nuclear scattering is elastic, i.e. without energy loss, and that the effective scattering cross-section is in accordance with Mott's theory.

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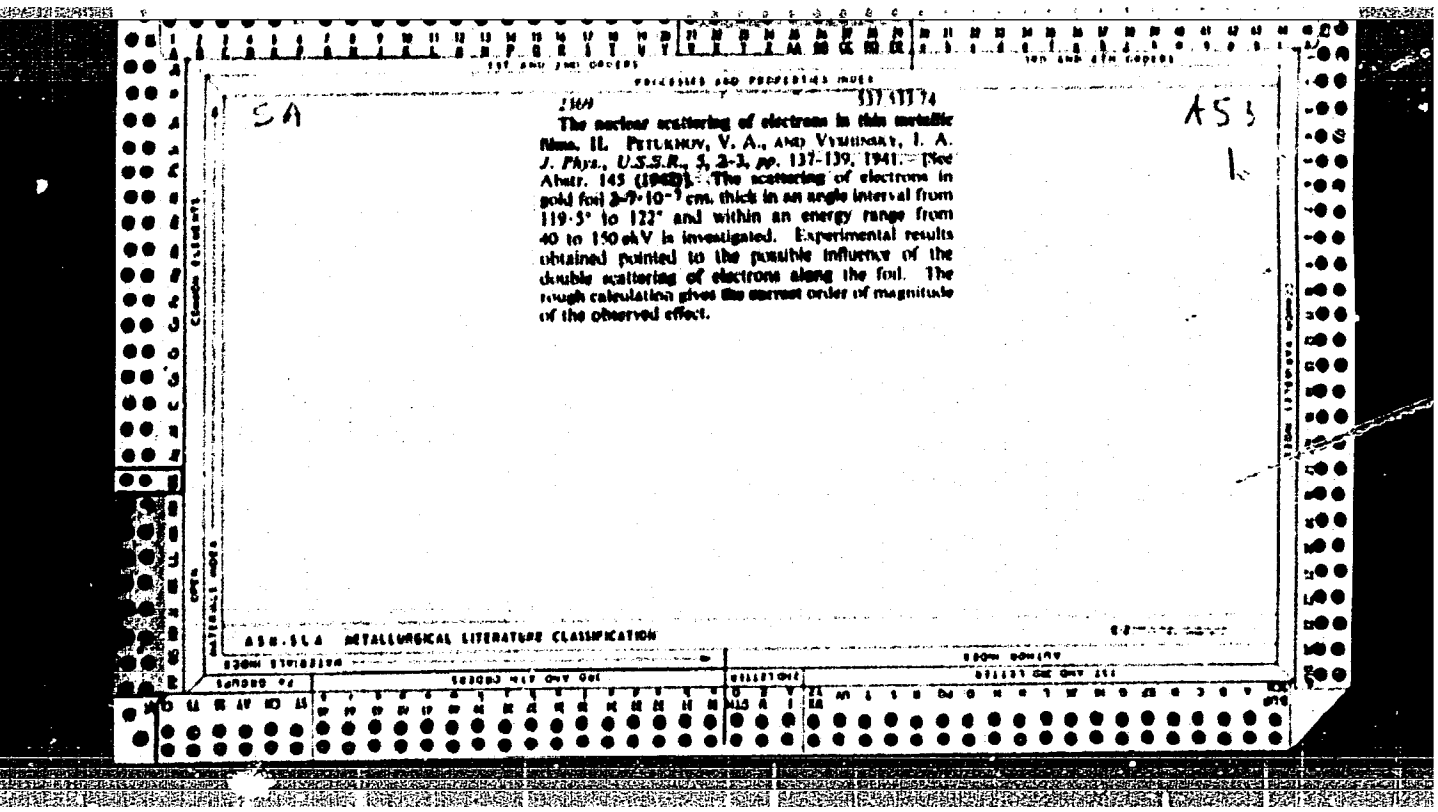
A 53-5 L A METALLURGICAL LITERATURE CLASSIFICATION



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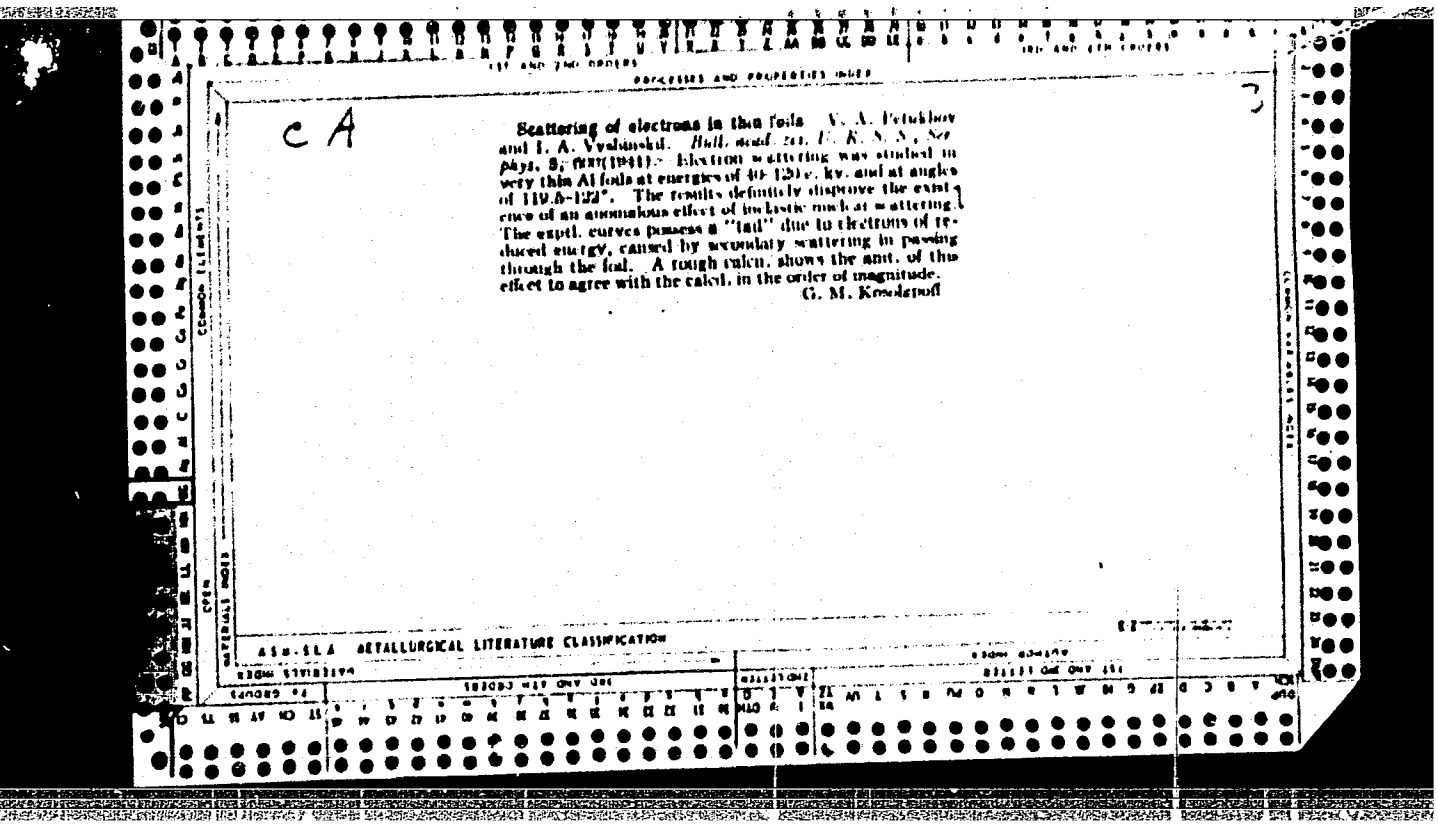
A53

1

2169

The nuclear scattering of electrons in thin metallic films. II. Petukhov, V. A., and Vyushkay, I. A. *J. Phys., U.S.S.R.*, 5, 2-3, pp. 137-139, 1941. [See Amer. 145 (1942).]—The scattering of electrons in gold foil $3 \cdot 9 \cdot 10^{-7}$ cm. thick in an angle interval from 119·5° to 122° and within an energy range from 40 to 150 eV is investigated. Experimental results obtained pointed to the possible influence of the double scattering of electrons along the foil. The rough calculation gives the correct order of magnitude of the observed effect.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

Scattering of electrons in thin foils. V. A. Petukhov and I. A. Vyalnishkil. *Bull. acad. sci. U. R. S. S., Sér. phys.* 8, [in Russian] (1944).—Electron scattering was studied in very thin Al foils at energies of 40-150 ev. kv. and at angles of 119.5-122°. The results definitely disprove the existence of an anomalous effect of inelastic nuclear scattering. The exptl. curves possess a "tail" due to electrons of reduced energy, caused by secondary scattering in passing through the foil. A rough calcn. shows the amt. of this effect to agree with the calcd. in the order of magnitude.
G. M. Kovalenoff

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

RAZUVAYEV, G.A.; LATYAYEVA, V.N.; VYSHINSKAYA, L.I.; VYSHINSKIY, N.N.

New monocyclopentadienyl compounds of titanium. Dokl. AN SSSR 156 no. 5:1121-1123 Je '64. (MIRA 17:6)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete im. N.I.Lobachevskogo.
2. Chlen-korrespondent AN SSSR (for Razuvayev).

RAZUVAYEV, G.A.; LATYAYEVA, V.N.; VYSHINSKAYA, L.I.

Oxidation of bis-cyclopentadienylphenyltitanium by hydrogen peroxide.
Zhur.ob.khim. 32 no.4:1354-1355 Ap '62. (MIRA 15:4)
(Titanium compounds) (Oxidation)

VYSHINSKAYA, T.Ye.

Oscillographic examination in hypertension. Kardiologiia 4 no.3:73-75 My-Je '64. (MIRA 18:4)

1. Gospital'naya terapevticheskaya klinika (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A.Bagdasarov) II Moskovskogo meditsinskogo instituta imeni Pirogova.

VYSHINSKIY, L.K.

Useful recommendation. Veterinariia 30 no.7:44 Jy '53.(MLRA 6:7)

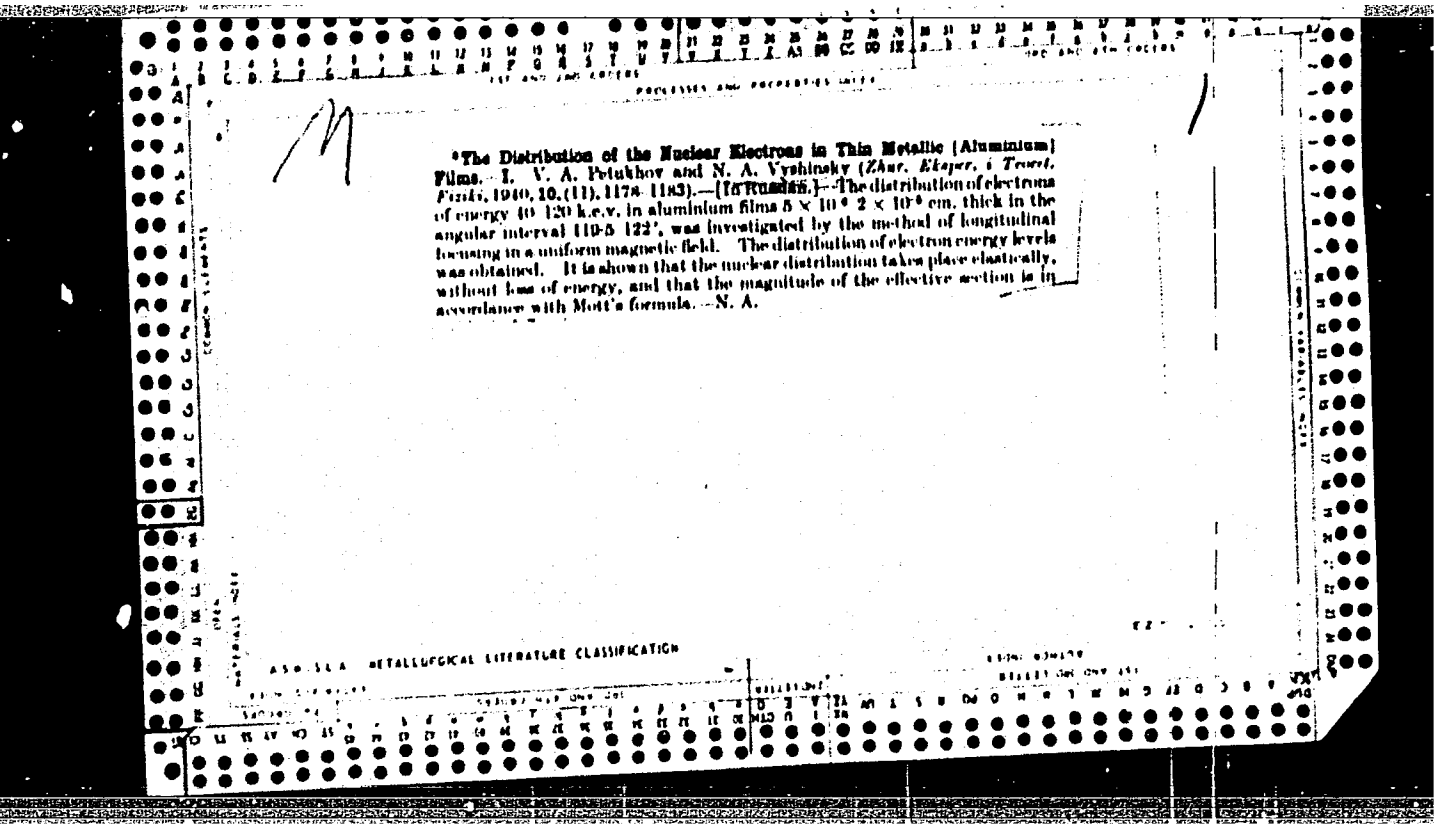
1. Zaveduyushchiy Krasnodol'skim zoovetpunktom Kokchetavskoy oblasti.

VYSHINSKIY, L. K.

Kochetav Oblast. A Useful Recommendation

SO: Veterinariya; Vol. 30; No. 7; 44; July 1953. Unclassified.

Trans. #121 by L. Lulich



"The Distribution of the Nuclear Electrons in Thin Metallic [Aluminium] Films.—I. V. A. Prikhov and N. A. Vyshinsky (*ZhEksp. Eksper. i Teoret. Fiziki*, 1940, 10, (11), 1178–1183).—[In Russian.]—The distribution of electrons of energy 40–120 k.e.v. in aluminium films 5×10^{-6} – 2×10^{-5} cm. thick in the angular interval 110·5–122°, was investigated by the method of longitudinal focusing in a uniform magnetic field. The distribution of electron energy levels was obtained. It is shown that the nuclear distribution takes place elastically, without loss of energy, and that the magnitude of the effective section is in accordance with Mott's formula.—N. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

ACCESSION NR: AP4040951 S/0020/64/156/005/1121/1123

AUTHOR: Razuvayev, G. A. (Corresponding member AN SSSR); Latyayeva, V. N.; Vy*shinskaya, L. I.; Vy*shinskiy, N. N.

TITLE: New monocyclopentadienyl derivatives of titanium

SOURCE: AN SSSR. Doklady*, v. 156, no. 5, 1964, 1121-1123

TOPIC TAGS: titanium, titanium derivative, monocyclopentadienyl derivative, Ti monocyclopentadienyl derivative, phenol, cyclopentadienyl timethyltitane, dipenyl mercury, phenyl mercury chloride, organotitanium compound

ABSTRACT: The authors analyzed reactions wherein the Cl atoms in monocyclopentadienyl titanium trichloride were replaced with phenyl groups. G. A. Razuvayev it Cl (DAN, 150 (1963) 566) Previously showed that, during the reaction of titanium tetrachloride, all four Cl atoms are replaced by phenyl radicals. The authors therefore initially analyzed the exchange reaction of diphenyl mercury with $C_5H_5TiCl_3$ at a 3 to 1 ratio in a benzene solution at room temperature. The following new compounds were identified:

$$C_5H_5TiCl_3 + 3(C_6H_5)_2Hg \rightarrow 3C_6H_5HgCl + [C_5H_5Ti(C_6H_5)_3]. \quad (1)$$

$$C_5H_5TiCl_3 + 3C_6H_5Li \rightarrow C_5H_5Ti(C_6H_5)_3 + 3LiCl. \quad (2)$$

$$C_5H_5Ti(C_6H_5)_3 + 3HgCl_2 \rightarrow 3C_6H_5HgCl + C_5H_5TiCl_3. \quad (3)$$

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ACCESSION NR: AP4040951

$$C_5H_5Tl(C_5H_5)_2 + изо\text{-}C_4H_7OH \rightarrow 3C_5H_6 + C_5H_5Tl(о\text{-}изо\text{-}C_4H_7)_2. \quad (4)$$

$$C_5H_5Tl(о\text{-}изо\text{-}C_4H_7)_2 + 3HCl \rightarrow C_5H_5TlCl_2 + 3\ изо\text{-}C_4H_7OH. \quad (5)$$

$$C_5H_5Tl(C_5H_5)_2 \xrightarrow[t<-20^\circ]{эфир} C_5H_5TlC_5H_5 + C_5H_6 + 1/2\ C_5H_5 - C_5H_5. \quad (6)$$

$$C_5H_5TlC_5H_5 \rightarrow C_5H_5 + Tl + [C_5H_6]. \quad (7)$$

$$C_5H_5TlC_5H_5 + HgCl_2 \rightarrow C_5H_5HgCl + [C_5H_5TlCl], \quad (8)$$

$$[C_5H_5TlCl] + 2HgCl_2 \rightarrow C_5H_5TlCl_2 + Hg_2Cl_2. \quad (9)$$

Authors conclude that the bonding of the titanium atom with the cyclopentadienyl ring in the examined compounds is very similar to a ferrocene bond. Orig. art. has: 11 Formulas.

ASSOCIATION: Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete im. N. I. Lobachevskogo (Scientific Research Institute for Chemistry of Gorki State University)

SUBMITTED: 17Feb64 ENCL: 00

SUB CODE: IC NO REF SOV: 003 OTHER: 002

Card 2/2

VYSHINSKIY, N.N.

Effect of liquid - crystal phase transitions on the infrared spectra of ethyl derivatives of Si, Ge, and Sn. Trudy po khim.i khim.tekh. no.1:18-20 '63. (MIRA 17:12)

5.3700

78293
SOV/79-30-3-47/69

AUTHORS: Razuvayeva, G. A., Vyazankin, N. S., Vyshinskiy, N. N.

TITLE: Thermal Decomposition of Tetraethyllead and Hexaethyldiplumbane. II. Decomposition of Tetraethyllead, Hexaethyldiplumbane, and Diethyllead Mixtures

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3, pp 967-972 (USSR)

ARSTRACT: This is a continuation of the authors' previous study of thermal decomposition of organic lead compounds (ZhOKh, 29, 3662, 1959), where it was shown that the thermal decomposition of tetraethyllead (I) proceeds through the formation of intermediate hexaethyldiplumbane (II), according to:

$$(C_2H_5)_4Pb \longrightarrow (C_2H_5)_6Pb_2 \longrightarrow (C_2H_5)_2Pb \longrightarrow Pb$$

This paper describes the thermal decomposition of I and II, and II and diethyllead (III) mixtures. Since

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Thermal Decomposition of Tetraethyllead and Hexaethyldiplumbane. II

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SOV/79-30-3-47/69

it was observed previously that the properties of II, prepared according to F. Hein and A. Klein (Ber., 71, 2381, 1938), depend on the conditions of synthesis, the processes which take place in the synthesis of II were also studied. The mixture of I and II was prepared in the receiver of a special apparatus for distilling I in a hydrogen atmosphere under vacuum. The ampoules with the mixture were kept at 135 $\pm$ 0.4° and frozen with liquid nitrogen. Synthesis of II was achieved at 18 $\pm$ 0.2° from a mixture of aluminum powder and triethyllead chloride solution in 2.5N KOH. The time effect of synthesis is shown in Fig. 2. Thermal decomposition of II and other results of the experiments are given in Figs. 3, 4, and 5. The data obtained confirm the previous conclusion that the thermal decomposition of I proceeds through the formation of an intermediate II, and thermal decomposition of II proceeds through the formation of III. It is suggested that metallic lea formed in the process of decomposition acts as a

Card 2/5

Thermal Decomposition of Tetraethyllead and Hexaethyldiplumbane. II

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SOV/79-30-3-47/69

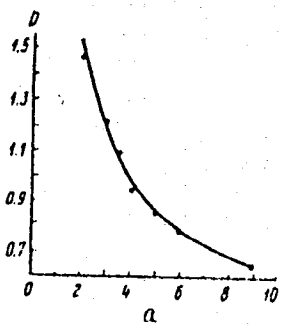

Fig. 2. Change of optical density of hexaethyldiplumbane in process of its synthesis. Thickness of absorption layer d = 0.020 mm; wavelength $\lambda = 400\ m\mu$.

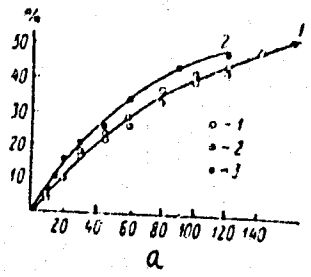

Fig. 3. Decomposition curves of pure tetraethyllead (1); mixture of 2.3% hexamethyldiplumbane and 97.7% tetraethyllead (2); mixture of 19.5% hexaethyldiplumbane and 80.5% tetraethyllead (3).

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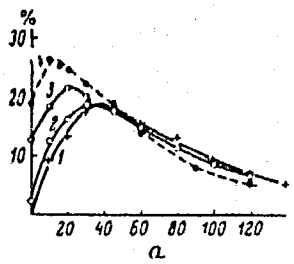

Fig. 4. Change of hexaethyldiplumbane concentration in tetraethyllead in thermal decomposition of the latter (1) and its mixture with hexaethyldiplumbane. Starting concentrations of $(C_2H_5)_6Pb_2$ in mixtures (in % by weight): 2.3 (2); 13.7 (3); 19.5 (4).

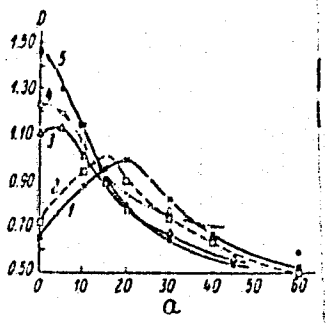

Fig. 5. Curves of optical density (d = 0.020 mm; λ = 400 m μ) change in thermal decomposition of hexaethyldiplumbane and diethyllead mixtures. Mixtures were obtained according to Hein and Klein by keeping reagents at a steady temperature for (hr): 9(1), 6(2), 3.5 (3), 3(4), 2(5).

Card 4/5

Thermal Decomposition of Tetraethyllead and Hexaethyldiplumbane. II

78293
SOV/79-30-3-47/69

catalyst. It was shown that synthesis according to Hein and Klein leads to the formation of a mixture of diethyllead and hexaethyldiplumbane. There are 5 figures; and 4 references, 1 German, 3 Soviet.

SUBMITTED: March 14, 1959

Card 5/5

S/079/60/030/012/025/027
B001/B064

AUTHORS: Razuvayev, G. A., Vyazankin, N. S., and Vyshinskiy, N. N.

TITLE: Thermal Decomposition of Lead Tetraethyl, Hexaethyl Diplumbane and Their Analogues. IV. Effect of Precipitating Lead, the Walls of the Vessel and Other Factors Upon the Decomposition Process

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 12, pp.4099-4104

TEXT: The authors showed previously (Ref.1) that the thermal decomposition of lead tetraethyl in the liquid phase is a complex chain process proceeding under the formation of less ethylated compounds, hexaethyl diplumbane and lead diethyl:
$(C_2H_5)_4Pb \longrightarrow (C_2H_5)_6Pb_2 \longrightarrow (C_2H_5)_2Pb \longrightarrow Pb$ (I). The formation of a solid phase, metallic lead, is characteristic of this reaction. Previous findings on the decomposition kinetics of binary mixtures of lead tetraethyl and hexaethyl diplumbane (Ref.6) were used to study the role played by this metal in the complicated thermal decomposition processes. Fig.1 shows that the concentration of hexaethyl diplumbane reaches a limit

characteristic of the given temperature in the decomposition of pure lead tetraethyl, and that it drops subsequently. It was expected in the decomposition of a specially prepared mixture consisting of $(C_2H_5)_4Pb$ and $(C_2H_5)_6Pb_2$, with a concentration of the second component being close to the limit concentration, that the kinetic curve consist of the descending branch only. Also in this case, however, the concentration of hexaethyl diplumbane increases. These findings are in favor of the fact that lead acts as a catalyst in the splitting of the decomposition intermediates, since in its absence a concentration of hexaethyl diplumbane is observed, and in the presence of considerable amounts of highly disperse metal the $(C_2H_5)_6Pb_2$ concentration is reduced. It was found that in the decomposition of lead tetraethyl the final product, the highly disperse metallic lead, catalyzes the decomposition intermediates (hexaethyl diplumbane and lead diethyl), so that this thermal decomposition may be regarded as an autocatalytic process. The wall of the vessel has no essential effect upon the decomposition process of lead

tetraethyl and hexaethyl diplumbane. In the presence of atmospheric oxygen the oxidation of lead tetraethyl suppresses the thermal decomposition reaction completely. Traces of atmospheric oxygen and products of the incomplete oxidation of lead tetraethyl inhibit the thermal decomposition process considerably. Stronger inhibitors of the thermal decomposition reaction of lead tetraethyl are small quantities of dibromo ethane and other alkyl halides. Fig.3 shows the effect of atmospheric oxygen upon the decomposition of lead tetraethyl at $135\pm0.3^{\circ}C$. Table 1 shows that the separation of lead from the reaction mixture leads to a concentration of the decomposition intermediate product of hexaethyl diplumbane. Yu. I. Dergunov took part in some of the experiments. There are 3 figures, 3 tables, and 7 references: 5 Soviet, 1 American, and 1 German.

ASSOCIATION: Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete (Scientific Research Institute of Chemistry of Gor'kiy State University)

SUBMITTED: January 8, 1960

24(7), 5(4) SOV/48-23-10-22/39

AUTHORS: Rudnevskiy, N. K., Vyshinskiy, N. N.

TITLE: The Molecular Spectra of Hexaethyl Dilead and the Determination of Its Concentration in Tetraethyl Lead

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 10, pp 1228-1229 (USSR)

ABSTRACT: Industrially produced tetraethyl lead (TEL) which is used as antidetonant, generally also contains hexaethyl dilead (HED) which reduces its quality and chemical stability. The present paper deals with the spectrophotometric determination of HED in TEL. The TEL spectra have already been frequently investigated, whereas nothing is known to the authors about investigations of HED spectra. They therefore investigated the infrared spectra of HED within the range 1.5-25μ by means of an IKS-2-spectrometer and a monochromator of the type EMP-2. However, it turned out that there is hardly any difference between the infrared spectra of HED and TEL within this range, which renders the method useless. By using electron spectra of these compounds (figure 1 - TEL (curve 1) and HED (curve 2) in n-heptane) a method for the quantitative determination of HED in

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The Molecular Spectra of Hexaethyl Dilead and the Determination of Its Concentration in Tetraethyl Lead

TEL could be worked out. Figure 2 shows the calibration curves: Line 1: HED determination in TEL at 320 mμ with a TEL standard; line 2: in n-heptane with n-heptane standard. The relative error in HED determination with a HED concentration of 0.5-3.5% amounted to be ±5%. If TEL contains more than 3-4% HED, optical density is much greater, and therefore dilution is carried out with n-heptane. It is assumed that HED concentration in the sample is a linear function of the true concentration. In the case of such a determination the relative error is about ±4%. The method of determination HED and TEL was used in practice when investigating the photo- and thermo-decay of TEL in the absence of air-oxygen. It was found that, both by uv-irradiation (Fig 3) and by the heating of TEL its optical density increases. This was assumed to be due to the increase of the HED content; this assumption was confirmed both by means of polarographic- and also by chemical methods. There are 3 figures and 7 references, 2 of which are Soviet.

Card 2/2

VOLKOV, V.F.; VYSHINSKIY, N.N.

Radiospectral comparator for investigating the absorption spectra of molecules. Zav.lab. 29 no.5:614-615 '63. (MIRA 16:5)

1. Gor'kovskiy gosudarstvennyy universitet im. N.I.Lobachevskogo.
(Radio-frequency spectroscopy)

VOLKOV, V.F.; VYSHINSKIY, N.N.; RUDNEVSKIY, N.K.

Vibrational and rotational spectra of trimethylchlorosilane, triethylchlorosilane, and triethylchlorostannane. Izv. AN SSSR.Ser. fiz. 26 no.10:1282-1285 O '62. (MIRA 15:10)
(Silane--Spectra) (Tin organic compounds--Spectra) (Spectrum, Molecular)

VISHINSKIY, N.N.; ALEKSANDROV, Yu.A.; RUDNEVSKIY, N.K.

Vibrational spectra of tin and lead organic compounds and their analytical application. Izv. AN SSSR.Ser.fiz. 26 no.10:1285-1287 O '62.
(MIRA 15:10)

(Tin organic compounds--Spectra) (Lead organic compounds--Spectra)
(Spectrum, Molecular)

L 11404-63 EWT(m)/EDS

S/032/63/029/005/018/022

AUTHORS: Volkov, V. F. and Vyshinskiy, N. N.

TITLE: Radiospectral comparator for investigation of the absorption spectra of molecules

PERIODICAL: Zavodskaya laboratoriya, v. 29, no. 5, 1963, 614-615

TEXT: The design of an analyzer of microwave lines of gas absorption is described. The comparator for a frequency range of 7000 to 50,000 mc consists of 2 radio-spectroscopes, one of them a standard. In the standard, electric signals of the molecules serve as standards of frequency and intensity. The action of the research radiospectroscope is based on electric molecular modulation, and the radiospectral lines are determined by comparison with the standard absorption lines of the gas molecules. There is one figure.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet im. N. I. Lobachevskogo (Gor'kiy State University imeni N. I. Lobachevskiy)

Card 1/1

VYSHINSKIY, N.N.; RUDNEVSKIY, N.K.

Oscillatory spectra of certain organometallic compounds of the elements of group IV. Opt. i spektr. 10 no.6:797-799 Je '61.
(Organometallic compounds--Spectra)

RAZUZAYEV, G.A.; VYAZANKIN, N.S.; DERGUNOV, Yu.I.; VYSHINSKIY, N.N.

Thermal decomposition of tetraethyllead, hexaethylplumbane, and their analogs. Part 5: Reactions of decomposition and disproportionation of hexaethyldistannane. Zhur.ob.khim. 31 no.5:1712-1717 My '61. (MIRA 14:5)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete imeni N.I.Lobachevskogo.
(Tin organic compounds)

S/046/62/026/010/011/013
B117/B186

AUTHORS: Vyshinskiy, N. N., Aleksandrov, Yu. A., and Rudnevskiy, N. K.

TITLE: Vibration spectra of organic tin and lead compounds and their analytical application

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 10, 1962, 1285-1287

TEXT: Unlike the spectra of tetra- and hexaethyl derivatives, the infrared absorption spectrum of triethyl germanium, that of triethyl tin, and that of triethyl lead oxides (Et_3MOMEt_3) of corresponding ethylates (Et_3MOEt) and triethyl tin peroxide ($Et_3SnOOSnEt_3$), which were examined here (M = Ge, Sn, Pb; Et = C_2H_5), display intense bands (Ge = 856, Sn = 776, Pb = 638 cm^{-1}) which are suited for analytical purposes and can be attributed to the asymmetric vibrations of the M-O-M group. It has been shown that the force constant of the M-O bond can be estimated under certain conditions relatively to the valence angles of the M-O-M group.

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The resulting values can be used to estimate the vibration frequencies of the M-O bond in triethyl germanium, triethyl tin, and triethyl lead ethylate. The vibration frequency of the Pb-O bond in an Et_3PbOEt molecule corresponds obviously to the asymmetric vibration frequency of the PbC_3 group. In the range about 590 cm^{-1}, the spectrum of Et_3SnOEt shows a band of medium intensity, which can be attributed to the vibration of Sn-O. The question whether the weak band detected in the Et_3GeOEt spectrum near 650 cm^{-1} can be assigned to the vibrations of the Ge—O bond has not yet been answered. For analytical purposes, however, the intense bands found in the spectra of ethylates around 900 cm^{-1} and between 1050 and 1100 cm^{-1} are more important. The 550 cm^{-1} band in the spectrum of triethyl tin peroxide and the 790 cm^{-1} band in the spectrum of triethyl silicon peroxide must be attributed to the stretching vibrations of the Sn-O and Si-O bond, respectively. The characteristics of the spectra under examination made it possible to investigate the mechanism underlying the oxidation of hexaethyl diplumbane and hexaethyl distannane as well as the properties of triethyl tin peroxide (Yu. A. Aleksandrov, G. A. Shchyashinskiy, Tr. po khimii i khim. tekhnologii, Gor'kiy, 3, 656 (1961)). There are 3 figures.

L 26723-66 EWT(m)/EWI(j)/T IJP(c) WW/RM

ACC NR: AR6011876 SOURCE CODE: UR/0081/65/000/016/S030/S031

AUTHOR: Vyakhirev, D. A.; Zabotin, K. P.; Zuyeva, Yu. M.; Troitskiy, B. B.; Vyshinskiy, N. N.; Nikolayeva, M. V.; Pogrebnaya, T. I.; Fomicheva, L. V.

TITLE: Gas chromotography study of impurities in methylmethacrylate and analysis of their effect on the process of polymerization

SOURCE: Ref. zh. Khimiya, Abs. 16S214

TOPIC TAGS: methanol, methylmethacrylate, glycol, polymerization rate, molecular weight, monomer

ABSTRACT: With the use of the gas chromatography method on an INZ-600 brick with a selective liquid phase of polyethylene glycol 1000, it has been determined that the basic admixtures in industrial methylmethacrylate are dimethyl ether, methylformate, methylpropionate, methanol, methyl-β-methoxypropionate, and three unidentified substances. An investigation was made of the effect of supplementing the detected admixtures to methylmethacrylate on the polymerization rate and the molecular weight of the polymer obtained by standard methods in emulsion at 40C. It was shown that up to 2% methanol increases the polymerization rate and the molecular weight. Above 1% methylformate decreases the molecular weight and above 3% decreases the polymerization rate. Methylpropionate sharply decreases the molecular weight and the polymerization rate at a concentration of 0.5 to 1%. Acetaldehyde has no effect on the

Card 1/2

L 26723-66

ACC NR: AR6011876

polymerization rate, but it decreases the molecular weight. The addition of polymethylmethacrylate to a monomer causes an increase in the polymerization rate and a decrease in the molecular weight. Hydroquinone, added to the monomer as the inhibitor, causes a sharp drop of the polymerization rate and the molecular weight.V.Kopylov. [NT]

[Translation of abstract]

SUB CODE: 11,07/ SUBM DATE: none/

Card 2/2

L 49768-65 EPF(c)/EWP(j)/EWT(m) Pc-4/Pr-4 RM
ACCESSION NR: AR5012251 UR/0058/65/000/003/D033/D033

SOURCE: Ref. zh. Fizika, Abs. 3D238

AUTHORS: Vyshinskiy, N. N.; Kozlova, T. V.; Rudnevskiy, N. K. 26 B

TITLE: Investigation of the influence of the aggregate state and of the temperature on the vibrational infrared spectra of ethyl derivatives of silicon, germanium, and tin

CITED SOURCE: Tr. Komis. po spektroskopii. AN SSSR, vyp. 1, 1964, 451-459

TOPIC TAGS: infrared spectrum, vibrational spectrum, ethyl derivative, silicon, germanium, tin

TRANSLATION: Infrared spectra were investigated of seven ethyl derivatives of the type $(C_2H_5)_4M$, $(C_2H_5)_3MX$, and $(C_2H_5)_3M'M(C_2H_5)_3$ (M = Si, Ge, Sn) in the temperature range from -170 to +20C. The spectra of most frozen substances were richer in the number of vibrational frequencies than the spectra of the liquids. Splitting of individual bands is observed. The character of the behavior of the absorption

Card 1/2

L 49768-65
ACCESSION NR: AP5[illegible]

41663

S/048/62/026/010/010/013
B117/B186

24.6111

AUTHORS: Volkov, V. F., Vyshinskiy, N. N., and Rudnevskiy, N. K.

TITLE: Rotational vibration spectra of trimethyl silane chloride, triethyl silane chloride, and triethyl stannane chloride

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 10, 1962, 1282-1285

TEXT: Microwave spectra (20,000-40,000 Mc/sec) of $(CH_3)_3SiCl$, $(C_2H_5)_3SiCl$, $(CH_3)_3SnCl$, $(C_2H_5)_3SnCl$ and infrared absorption spectra (400-1600 cm^{-1}) of $(CH_3)_3SiCl$, $(C_2H_5)_3SiCl$, $(C_2H_5)_3SnCl$, and $(C_2H_5)_2SnCl_2$ (400-1300 cm^{-1}) were examined. The infrared absorption spectra of $(CH_3)_3SiCl$ and $(C_2H_5)_3SiCl$ agree with published data (A. L. Smith, J. A. McHard, Anal. Chem., 31, 1174 (1959); Ya. I. Ryskin, M. G. Voronkov, Collect. Czechoslov. Chem. Com., 24, 3816 (1959)). Infrared spectra of crystallizing $(C_2H_5)_2SnCl_2$ show a frequency change of the band which corresponds with the stretching vibrations of the C-C bond. This is related to the different symmetries of

Card 1/3

S/048/62/026/010/010/013
B117/B186

Rotational vibration spectra ...

A molecule in solution (point group C_{2v}) and in crystalline state (C_s). According to their microwave spectra, $(CH_3)_3SiCl$ and $(CH_3)_3SnCl$ possess the configuration of a symmetric gyro (point group C_{3v}). Spectra show distinctly marked harmonic series of these molecules with Cl^{35} and Cl^{37} isotopes. In accordance with the configuration stated above, the band in the infrared spectrum of $(CH_3)_3SiCl$, which corresponds to the stretching vibrations of the Si-Cl bond, is symmetric. In addition to the lines which are characteristic of symmetric gyros, the microwave spectrum of $(C_2H_5)_3SiCl$ exhibits a large number of other lines indicating that the molecule concerned exists in the form of rotational isomers. The presence of such molecules, and the presumed configuration of the point groups C_3, C_s, and C_1, account for the complex structure of the infrared absorption bands corresponding to the stretching vibrations of the C-C bonds of various isomers. The moment of inertia and the rotation constant of the molecule suggest that a C_{3v} symmetry can be assigned to $(C_2H_5)_3SiCl^{35,37}$. The microwave spectrum of $(C_2H_5)_3SnCl$ shows no lines

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indicating the configuration of a symmetric gyro. On the strength of the infrared spectrum it is possible, however, to regard the configuration with C_s symmetry as the isomeric ground state of $(C_2H_5)_3SnCl$. There are 2 figures and 1 table.

VYSHINSKIY, O.M. [Vyshyns'kyi, O.M.], kand.sel'skokhozyaystvennykh nauk

Liquid nitrogen fertilizers. Nauka i zhyttia 8 no.8:36-38 Ag '58. (MIRA 12:1)

(Fertilizers and manures)

USSR / Cultivated Plants. Grains. M-2

Abs Jour: Ref Zhur-Biol., No 6, 1958, 24959

Author : ~~Vyshinskiy, O. M.~~
Inst : Not given
Title : The Peat and Lupine Composts and the Methods of Using Peat Together with Green Manure in Fallows for Winter Crops

Orig Pub: Nauk. pratsi vid. sil'skogosp. nauk. AN URSR, 1956, vip. 4, 48-54 (Ukrainian)

Abstract: According to the findings of the experiment made at the Buchanskiy Experimental Point (Poles'ye), peat and lupine composts increase the effectiveness of peat as a fertilizer. They help to increase the mobile forms of nitrogen in the soil and increase its biological activity. Peat and lupine may be applied without preliminary composting, ploughing

Card 1/2

VYSHINSKIY, B.

Through the objective of an amateur's camera. Sov. foto 18 no.5: 33-34 My '58. (MIRA 11:5)

(Photography)

ACC NR: AT6022362 SOURCE CODE: UR/0000/66/000/000/0023/0029

AUTHOR: Vyshinskiy, S. A.

ORG: none

TITLE: Electromagnetic-wave propagation over a shielded helical line having a dielectric core, with an allowance for wire finite conductivity

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio. 22d, 1966. Sektsiya volnovodnykh ustroystv. Doklady. Moscow, 1966, 23-29

TOPIC TAGS: transmission line, helical antenna

ABSTRACT: Formulas are derived for calculating parameters of a helical transmission line from its known construction. From a characteristic equation for the propagation constant of such a line, technical formulas for the attenuation, shortening factor, and characteristic impedance are derived. Plots of the first two parameters vs. b/a (radii of the helix and shield, respectively) and of the characteristic impedance vs. frequency are shown. The results are claimed to be useful also for designing a line from specified electrical characteristics (a wide-band dummy antenna case). Orig. art. has: 5 figures and 15 formulas.

SUB CODE: 09 / SUBM DATE: 19Mar66 / ORIG REF: 005 / OTH REF: 001

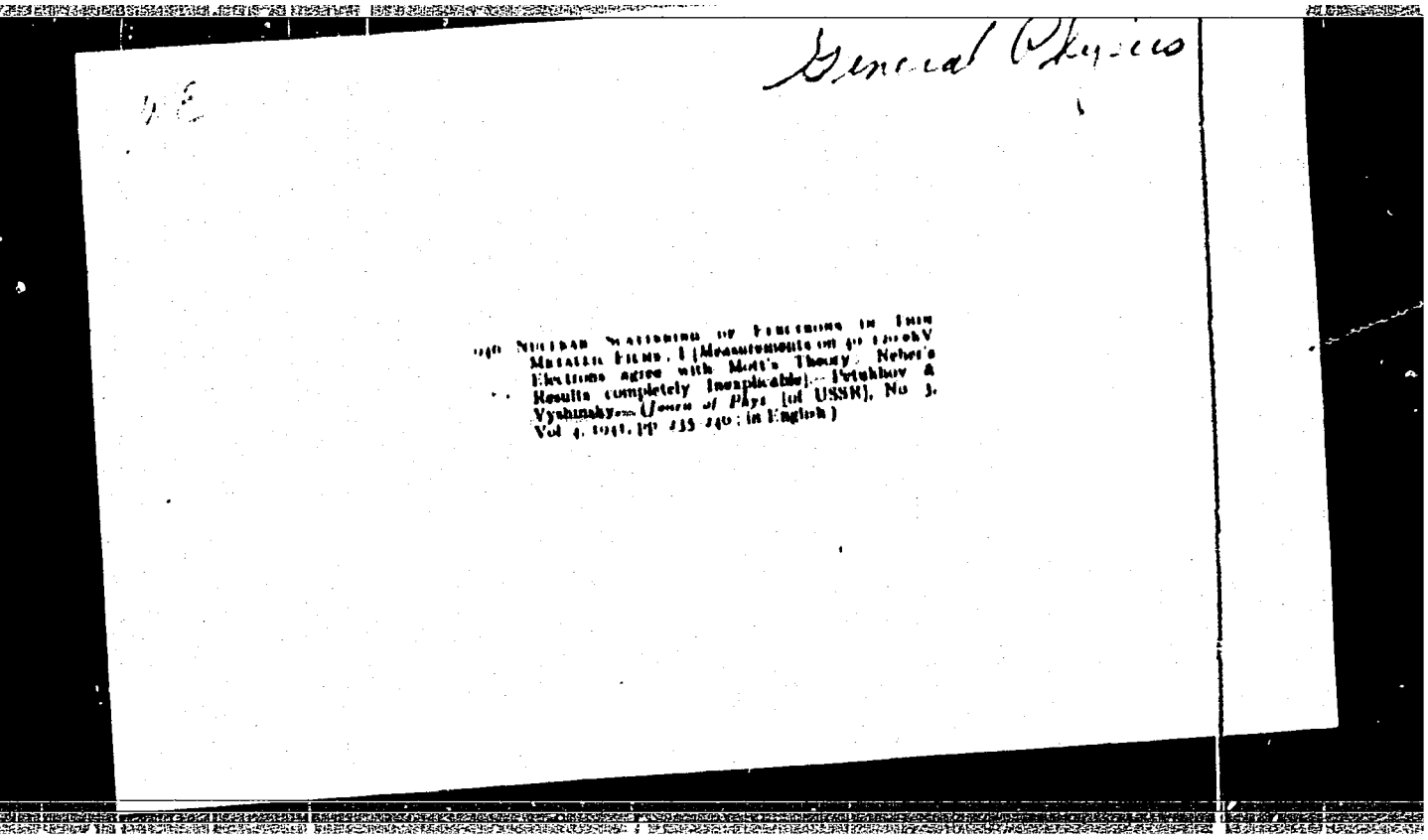
Card 1/1

VYSHINSKIY, V.

APTER, N.; VYSHINSKIY, V.

Cookery. Rabotnitsa 35 no.1:31 Ja '57. (MLRA 10:2)

(Cookery (Mushrooms))



General Physics

V. E.

"On Nuclear Scattering of Electrons in Thin Metallic Films. I. Measurements on Gold and Their Electrons agree with Mott's Theory. Nehru's Results completely Inexplicable." Tyutkhov & Vyshinskiy. (Journ. of Phys. [of USSR], No 3. Vol 4, 1941, pp 335-340; in English)

APTER, Nusen Danilovich, VYSHINSKIY, Vyacheslav Arkad'yevich

[Mushroom handbook] Pamiatka gribnika. [Moskva] Moskovskii rabochii, 1958. 90 p. (MIRA 11:11)
(Mushrooms)

VYSHINSKIY, V. V.

"Investigation of Heat and Mass Transfer in Cyclone Chambers."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

KONKIN, B.N., dotsent; VYSHINSKIY, Yu.M., inzh.

Braking force produced by 14Kr-1 electric locomotives in potassium mines of the upper Kama deposit. Izv. vys. ucheb. zav.; gor. zhur. 6 no.8:88-89 '63. (MIRA 16:10)

1. Permskiy politekhnicheskiy institut. Rekomendovana kafedroy pod"yemno-transportnykh mashin.

KONKIN, B.N., dotsent; VYSHINSKIY, Yu.M., inzh.

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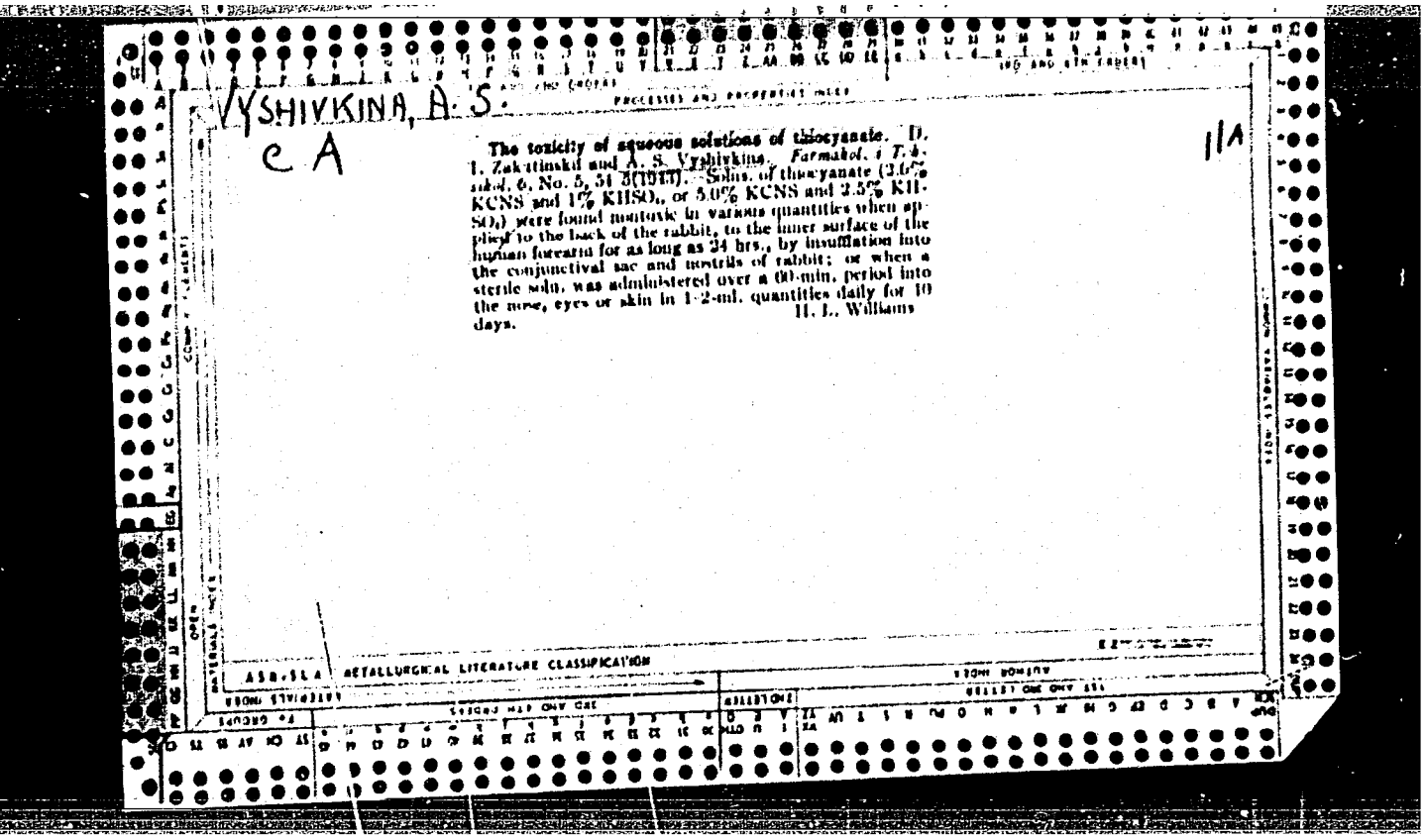

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